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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/698,479	10/30/2000	Vance Bergeron	APV30270CIP	6625

7590 03/29/2005

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EXAMINER
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CHEUNG, WILLIAM K

ART UNIT	PAPER NUMBER
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1713

DATE MAILED: 03/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/698,479

Applicant(s)

BERGERON ET AL.

Examiner

William K Cheung

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.  
4a) Of the above claim(s) 14, 15 and 19-41 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-13 and 16-18 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/318,941.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 011005, 031704.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date: \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: IDS 090403, 071603, 070103, 112202, 111601, 030201.

### DETAILED ACTION

1. Applicant's affirmed election of Group I invention, claims 1-18, with traverse is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Therefore, in view of lack of traversal to restriction requirement set forth from Response to Restriction Requirement, the restriction set forth by the examiner is deemed proper and is therefore made Final.
2. Regarding species election, applicants elected the species of claims 1-13, and 16-18, exemplified in Example 1 of the specification (page 139).

#### EXAMPLE 1

##### **Preparation of Poly(HEA-co-DMAM-co-AA) (9:3:1) Terpolymer**

2-Hydroxyethyl acrylate (25.00 g, 215.3 mmol), 2-(dimethylamino)ethyl methacrylate (11.28 g, 71.8 mmol), acrylic acid (1.71 g, 23.7 mmol), 2,2'-azobisisobutyronitrile (0.26 g, 1.6 mmol), 1,4-dioxane (150 ml) and 2-propanol (30 ml) are placed into a 500 ml three-necked round-bottomed flask, fitted with a heating mantle, magnetic stirrer, internal thermometer and argon inlet. The mixture is sparged with nitrogen for 30 minutes to remove dissolved oxygen. The mixture is heated for 18 hours with stirring at 65°C. TLC (diethyl ether) indicates consumption of monomer. An equal volume of water is added and the mixture is concentrated under vacuum by rotary evaporation to remove the solvent. Water is added to make a 10% solution and the mixture is lyophilized and then pulverized in a blender to yield an off-white powder. NMR is consistent with the desired compound.

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***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Oshibe et al. (US 5,244,935).

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*The invention of claims 1-6 relates to a **polymer comprising units capable of having a cationic charge at a pH of from about 4 to about 12**; provided that said polymer has **an average cationic charge density of 2.77 or less units per 100daltons molecular weight at a pH of from about 4 to about 12**.*

Oshibe et al. (col. 19-20, Synthesis No. 1 and 8) disclose terpolymers comprising monomeric units, DMAm, HEA, and AA which meet all the structure features of claims 7-13, 16-18. In view of applicants' species election, applicants admit that the elected terpolymer species would possess all the properties of claims 1-6. Therefore, the examiner has a reasonable basis to believe that all the claimed property-related features of claims 1-6 are inherently possessed in Oshibe et al. Since the PTO does not have proper means to conduct experiments, the burden of proof is now shifted to applicants to show otherwise. In re Best, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977); In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Regarding the molecular weight limitation of claim 5, the examiner believe that Oshibe et al. inherently possess the claimed molecular weight limitation because the claimed molecular weight range just about to cover all possible molecular weight of a free radically prepared terpolymer.

6. Claims 7-13, 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Oshibe et al.

Oshibe et al. (col. 19-20, Synthesis No. 1 and 8) disclose terpolymers comprising monomeric units, DMAM, HEA, and AA which meet all the structure features of claims 7-13, 16-18. Oshibe et al. (col. 19-20, Synthesis No. 1) clearly disclose the monomeric composition of claim 13. Claims 7-13, 16-18 are anticipated.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William K Cheung whose telephone number is (571) 272-1097. The examiner can normally be reached on Monday-Friday 9:00AM to 2:00PM; 4:00PM to 8:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David WU can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William K. Cheung

Primary Examiner

March 17, 2005

**WILLIAM K. CHEUNG  
PRIMARY EXAMINER**